

In the Claims:

1. (Currently amended) A cellular wheel sluice constructed as
[[a]] an axial blow through sluice, particularly for dosing
secondary fuels, comprising a supply chute (2) and
therebelow a ~~horizontally arranged~~ cellular wheel (4) that
is provided with radial cellular wheel webs (3) and that is
arranged to rotate about a horizontal axis in a housing,
which ~~comprises~~ housing has a blow-in hole (10) and a
blow-out ~~[[holes]]~~ hole (11) arranged in the housing below
the horizontal axis of the cellular wheel within ~~[[the]]~~ a
rotational area of the cellular wheel webs (3) and
positioned opposite each other in ~~facing sides~~ vertical
side walls of the housing, characterized in that an
injection nozzle (15) is integrated in the area of the
blow-in hole (10), said injection nozzle ~~blowing~~ being
adapted to blow transport air successively into ~~[[the]]~~
plural dosing chambers (5) respectively formed ~~[[by]]~~
between successive neighboring ones of the cellular wheel
webs (3), and in that the cellular wheel webs (3) ~~comprise~~
are provided with gap seals (12) that are made of a
material as hard as a metal and are positioned in their
~~radial end zones.~~ at radial outer ends of the cellular
wheel webs with a radial spacing gap between each one of
the gap seals and a cylindrical wall of the housing around
the cellular wheel.

1 2. (Currently amended) The cellular wheel sluice of claim 1,
2 characterized in that the injection nozzle (15) is set-in
3 coaxially and inwardly in a blow-in pipe socket (16)
4 secured to the blow-in hole (10), said injection nozzle
5 causing a reduction of the blow-in cross-section in the
6 area of the blow-in ~~opening~~ hole (10) relative to the
7 blow-in pipe cross-section.

Claims 3 to 9 (Canceled).

1 10. (Currently amended) The cellular wheel sluice of claim 1,
2 characterized in that the blow-in hole (10) and the
3 blow-out hole (11) are positioned axially opposite each
4 other in the ~~housing facing surfaces (26),~~ vertical side
5 walls of the housing, and in that ~~[[the]]~~ a cross-sectional
6 area ~~at least~~ of the blow-out hole (11) has about the
7 cross-section of one of the dosing ~~chamber~~ chambers (5).

1 11. (Currently amended) The cellular wheel sluice of claim 1,
2 characterized in that the injection nozzle (15) is
3 constructed as a pipe shape and comprises a nozzle opening
4 (24) having a diameter corresponding, at the most, to one
5 half of the median ~~dosing chamber diameter.~~ diameter of one
6 of the dosing chambers.

1 12. (Previously presented) The cellular wheel sluice of claim
2 1, characterized in that the gap seals are constructed as
3 separate cutting edges (12) made of a spring steel or other
4 low wear steel alloy and that they are exchangeably secured
5 to the cellular wheel webs (3).

1 13. (Currently amended) The cellular wheel sluice of claim 12,
2 characterized in that a counter cutting blade (13) is
3 provided in the supply chute (2) parallel to the cutting
4 edges (12) which rotatingly pass by the counter cutting
5 [[edge]] blade (13) with a small spacing therebetween and
6 in an opposing alignment.

1 14. (Currently amended) The cellular wheel sluice of claim 1,
2 characterized in that the housing ~~section~~ (1) is provided
3 with a wear bushing (21) on the ~~cylinder shaped inner~~
4 cylindrical wall and ~~at the facing sides~~ is provided with
5 a wear lining (14) [[which]] on inner surfaces of the
6 vertical side walls, and in that the wear bushing and the
7 wear lining are made of a spring steel material or [[of]]
8 a low wear steel alloy.

1 15. (Currently amended) The cellular wheel sluice of claim 12,
2 characterized in that the [[cell]] cellular wheel webs (3)
3 ~~with the cutting edges (12)~~ are secured to the cellular
4 wheel core (9) [[to]] so that the cutting edges (12) extend
5 at a circumferentially skewed slant to the horizontal axis

6 ~~axial direction~~ or with a slight ~~helix~~. helical shape about
7 the horizontal axis.

1 16. (Currently amended) The cellular wheel sluice of claim 13,
2 characterized in that the counter cutting blade (13) is
3 arranged at a circumferentially skewed slant to the ~~axial~~
4 ~~direction of the straight horizontal axis and the~~ cellular
5 wheel webs ~~[[(3) .]]~~ are straight and parallel to the
6 horizontal axis.

1 17. (New) The cellular wheel sluice of claim 1, wherein said
2 radial spacing gap has a radial measure from 0.2 mm to
3 0.5 mm.

1 18. (New) The cellular wheel sluice of claim 1, wherein each
2 one of the dosing chambers has a substantially trapezoidal,
3 annular sector cross-sectional shape, and the blow-out hole
4 has a substantially trapezoidal, annular sector opening
5 shape.

1 19. (New) The cellular wheel sluice of claim 18, wherein the
2 opening shape of the blow-out hole has an area that
3 approximately corresponds to an area of the cross-sectional
4 shape of a respective one of the dosing chambers.

1 20. (New) A blow-through cellular wheel feeder for feeding
2 particulate bulk solid material, comprising:

3 a housing that comprises a cylindrical wall extending
4 concentrically about a horizontal axis, and planar vertical
5 side walls at axial ends of said cylindrical wall, wherein
6 said cylindrical wall and said side walls bound a
7 cylindrical space in said housing;

8 a bulk solid material supply chute that communicates
9 into said cylindrical space through a supply opening in
10 said cylindrical wall;

11 a cellular wheel that comprises plural cellular wheel
12 webs extending radially outwardly from a central wheel hub
13 that is supported rotatably about said horizontal axis in
14 said cylindrical space in said housing, and respective gap
15 seals arranged respectively at radially outer edges of said
16 cellular wheel webs, wherein respective dosing chambers are
17 respectively formed and bounded radially between said
18 central wheel hub and said cylindrical wall and
19 circumferentially between respective successive neighboring
20 pairs of said cellular wheel webs, wherein said gap seals
21 are made of a hard material that has a hardness equal to
22 that of a metal, and wherein said gap seals are arranged to
23 leave a radial spacing gap between each one of said gap
24 seals and said cylindrical wall;

25 a blow-in hole that is provided below said horizontal
26 axis in a first one of said vertical side walls;

27 a blow-out hole that is provided below said horizontal
28 axis and axially across from said blow-in hole in a second
29 one of said vertical side walls; and

30 an injector nozzle that is mounted to said housing at
31 said blow-in hole and that is positioned and adapted to
32 blow a stream of transport gas through said blow-in hole,
33 a respective one of said dosing chambers in communication
34 with said blow-in hole, and said blow-out hole in a blowing
35 transport direction parallel to said horizontal axis.

1 21. (New) The blow-through cellular wheel feeder according to
2 claim 20, wherein said radial spacing gap has a radial
3 measure from 0.2 mm to 0.5 mm.

1 22. (New) The blow-through cellular wheel feeder according to
2 claim 20, wherein each one of said dosing chambers has a
3 substantially trapezoidal, annular sector cross-sectional
4 shape, and said blow-out hole has a substantially
5 trapezoidal, annular sector opening shape.

1 23. (New) The blow-through cellular wheel feeder according to
2 claim 22, wherein said opening shape of said blow-out hole
3 has an area that approximately corresponds to an area of
4 said cross-sectional shape of a respective one of said
5 dosing chambers.

1 24. (New) The blow-through cellular wheel feeder according to
2 claim 20, wherein respective radially outer edges of said
3 gap seals are configured as respective cutting knife edges.

1 25. (New) The blow-through cellular wheel feeder according to
2 claim 24, further comprising a counter cutting member with
3 a counter-cutting edge (13) arranged in said supply chute
4 at a chute-bounding side wall thereof that is
5 circumferentially downstream with respect to a rotation
6 direction of said cellular wheel about said horizontal
7 axis, and a deflector scraper (20) protruding from said
8 chute-bounding side wall into said supply chute above said
9 counter cutting member so as to be adapted to deflect away
10 from said counter cutting member the particulate bulk solid
11 material fed through said supply chute, wherein said
12 counter-cutting edge is positioned along a circumference of
13 said cutting knife edges and oriented circumferentially
14 opposite said cutting knife edges so as to cooperate with
15 said cutting knife edges for shear cutting.

1 26. (New) The blow-through cellular wheel feeder according to
2 claim 20, further comprising a cylindrical wear layer on an
3 inner surface of said cylindrical wall and a respective
4 planar wear layer on respective inner surfaces of said
5 vertical side walls of said housing, wherein said wear
6 layers are composed of a wear resistant steel alloy or a
7 spring steel.

1 27. (New) The blow-through cellular wheel feeder according to
2 claim 20, wherein said cellular wheel webs and said gap
3 seals have a helical shape about said horizontal axis.

1 28. (New) The blow-through cellular wheel feeder according to
2 claim 20, wherein said cellular wheel webs and said gap
3 seals each respectively extend at a circumferentially
4 skewed slant relative to said horizontal axis.